



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,575	09/09/2003	Daniel Miklos	KEY-003C1	3408
21323	7590	04/20/2004	EXAMINER	
TESTA, HURWITZ & THIBEAULT, LLP HIGH STREET TOWER 125 HIGH STREET BOSTON, MA 02110			PRINCE, FRED G	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/658,575	Applicant(s) MIKLOS, DANIEL	
	Examiner Fred Prince	Art Unit 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,10-13 and 53-59 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,10-13,53-55,58 and 59 is/are rejected.
- 7) ☒ Claim(s) 56 and 57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0903</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7 of U.S. Patent No. 6,660,163. Although the conflicting claims are not identical, they are not patentably distinct from each other because the elements called for in the instant claims may be construed broadly enough to encompass the elements in the patented claims.

***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "off-line treatment area comprising a second treatment vessel..." and "overflow weir of variable height" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Art Unit: 1724

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

4. The disclosure is objected to because of the following informalities: The patent number of the application from which priority is claimed must be provided after the serial number.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 5, 10, 53, 54, 58, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tambo et al.

Tambo et al., directed toward treating a waste stream, disclose conducting water to a treatment vessel (2) for treatment with a first biological population, drawing off a portion of the stream (17) to a treatment area (3) for treatment by a second biological population customized to provide aerobic microbes, returning a portion of the stream (23) to the treatment vessel, wherein the nitrate concentration of the feed is lower than

Art Unit: 1724

that of the recycle stream (Table 1), the second population contains more nitrifiers than the first population (col. 4, lines 15-32; col. 4, lines 52-59).

It is submitted that the returned portion inherently contains a portion of the second biological population as no bacterial filtration step is performed prior to its return.

Regarding the treatment area being off-line, it is submitted that it is well within the purview of the skilled artisan to provide an optional treatment area in order to treat water based on the contaminants present and the results desired. Accordingly, it would have been obvious for the skilled artisan to have modified the method and apparatus of Tambo et al. such that it includes an off-line treatment area in order to treat water based on the contaminants present and the results desired, as known in the art.

Per claims 58-59, since the elements recited in the claims do not add additional structure to claim 54, and thus are considered process limitations, the elements are not given patentable weight.

7. Claims 1, 4, 54, 58, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al.

Hong et al., directed toward treating a waste stream, disclose conducting water to a treatment vessel (20a) for treatment with a first biological population (col. 4, lines 60-67), drawing off a portion of the stream for treatment by a second biological population (20b; col. 5, lines 13-18), returning a portion of the stream to the treatment vessel (24), wherein facultative anaerobes are used in the treatment vessel (col. 5, lines 51-54).

Art Unit: 1724

It is submitted that the returned portion inherently contains a portion of the second biological population as no bacterial filtration step is performed prior to its return.

Regarding the treatment area being off-line, it is submitted that it is well within the purview of the skilled artisan to provide an optional treatment area in order to treat water based on the contaminants present and the results desired. Accordingly, it would have been obvious for the skilled artisan to have modified the method and apparatus of Hong et al. such that it includes an off-line treatment area in order to treat water based on the contaminants present and the results desired, as known in the art.

Per claims 58-59, since the elements recited in the claims do not add additional structure to claim 54, and thus are considered process limitations, the elements are not given patentable weight.

8. Claims 1, 3-5, 54, 58, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voyt.

Voyt, directed toward a method and apparatus for treating a waste stream, discloses conducting water to a treatment vessel (31) for treatment with a first biological population, drawing off a portion of the stream for treatment by a second biological population (11), wherein the portion may be drawn off prior to introducing the water into the treatment vessel (39, Fig. 2), returning a portion of the stream to the treatment vessel (19), wherein more facultative anaerobes are used in the treatment vessel (col. 5, lines 1-2), and more facultative aerobes are in the second population (col. 4, lines 43-45).

Art Unit: 1724

It is submitted that the returned portion inherently contains a portion of the second biological population as no bacterial filtration step is performed prior to its return.

Regarding the treatment area being off-line, it is submitted that it is well within the purview of the skilled artisan to provide an optional treatment area in order to treat water based on the contaminants present and the results desired. Accordingly, it would have been obvious for the skilled artisan to have modified the method and apparatus of Hong et al. such that it includes an off-line treatment area in order to treat water based on the contaminants present and the results desired, as known in the art.

Per claims 58-59, since the elements recited in the claims do not add additional structure to claim 54, and thus are considered process limitations, the elements are not given patentable weight.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tambo et al. or Hong et al. in view of Okey et al.

Tambo et al. and Hong et al. are described above. Tambo et al. and Hong et al. do not disclose maintaining a target ORP range.

Okey et al., also directed toward treating a waste stream, disclose maintaining a target ORP in order to ensure that the process is carried out as desired (col. 1, lines 50-53; col. 5, lines 21-35).

It would have been obvious for the skilled artisan to have provided the process of either Tambo et al. or Hong et al. with a target ORP in order to ensure that the process is carried out as desired, as suggested by Okey et al.



Art Unit: 1724

10. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Tambo et al. or Hong et al. in view of Soeder et al.

Tambo et al. and Hong et al. are described above. Tambo et al. and Hong et al. do not disclose maintaining a target ORP range.

Soeder et al., also directed toward treating a waste stream, disclose maintaining oxygen and nitrate uptake in order to control supply of water to the treatment tank and control the oxygen content of the water (col. 3, lines 19-26).

It would have been obvious for the skilled artisan to have modified the process of either Tambo et al. or Hong et al. by maintaining oxygen and nitrate uptake in order to control supply of water to the treatment tank and control the oxygen content of the water, as suggested by Soeder et al.

11. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voyt in view of Milne.

Voyt is described above. Voyt does not disclose using an adjustable overflow weir.

Milne, also directed toward an apparatus for treating a waste stream, disclose providing apparatus with overflow weir which is adjustable in height in order to control the water level within a tank (col. 5, lines 24-36).

It would have been obvious for the skilled artisan to have provided the apparatus of Voyt with an adjustable overflow weir in order to control the water level within the tank, as suggested by Milne.



Art Unit: 1724

***Allowable Subject Matter***

12. Claims 56-57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

While claim 1 is not patentable for the reasons provided above, in the examiner's opinion, the prior art fails to teach or fairly suggest sequencing the growth conditions of the second biological population.

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited of interest to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1724

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Fred G. Prince*  
**FRED G. PRINCE**  
**PRIMARY EXAMINER**  
*4/5/04*